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## PATENT ABSTRACTS OF JAPAN

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(54) CSMA/CD OPTICAL STAR NETWORK  
SYSTEM

## (57) Abstract:

**PURPOSE:** To save an expensive detection circuit by assigning a frequency relating to the FSK modulation system to plural stations, allowing a station to receive the frequency to detect collision of the transmission of other stations depending on the sum and difference of the frequencies.

**CONSTITUTION:** A station  $ST_i$  consists of a collision display circuit 1, a calculation circuit CAL, a reception circuit 2, a transmission circuit 3, a photodetector 4 and a light emitting element 5. The station  $ST_i$  is connected by an optical star coupler PC and a receiver side optical cable LR and a sender side optical cable LS are provided to the optical star coupler PC. The transmission is applied by the FSK modulation system to the sender side optical cable LS via the transmission circuit 3 and the light emitting element 5. The signal is received by the photodetector 4 and the reception circuit 2 via the receiver side cable LR. Then the sum and difference of the frequencies received by the calcula-

tion circuit CAL are calculated simultaneously during the reception, and when the calculated sum and difference are normal, no collision display circuit is operated. When the sum and difference are calculated, the collision display circuit is operated and the transmission is stopped immediately.

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